

- ◆ be screened from public view and located downwind from the farm and neighbors' residences; and
- ◆ be approved by a qualified individual.

A **Dry Stack** near the horse or livestock barn is a common choice, and:

- ◆ usually has three walls that are four-feet high and secured below the frost line;
- ◆ ideally has a solid, concrete floor for ease of scooping the manure with a tractor bucket and for minimizing loss of leachate into groundwater, and for preventing runoff; and
- ◆ must follow the same recommendations for stockpiles.

Land Application

- ◆ is not practical or recommended during winter or rainy times of year when fields are snow-covered or soft;
- ◆ will provide nutrients for forage growth in your pasture or hay field;
- ◆ should occur while plants are actively growing;
- ◆ requires appropriate manure handling equipment; and



- ◆ must observe appropriate setbacks from sensitive features, residences, and property lines.

Composting

- ◆ is an efficient, cost-effective, recommended practice for manure management;
- ◆ inactivates most pathogens, parasites and weed seeds within several days if the process is done correctly;
- ◆ keeps flies, rodents, and other vectors under control;
- ◆ results in a stable, environmentally-beneficial product that can be used on farm fields, and potentially may be sold to the public; and
- ◆ requires active management and the availability of a front-end loader tractor.

Hauling Off-Site

- ◆ may require a dumpster for temporary containment, which should be emptied at least weekly;
- ◆ requires local composters or contracted commercial haulers for transporting the manure and bedding off-site; and
- ◆ the storage site must be properly constructed and sited for easy access and loading in varying weather conditions, and for minimizing runoff to sensitive areas, as outlined for Stockpiles.



What Technical Resources and Guidance Are Available for Facilitating Proper Manure Management?

- ◆ Maine Department of Agriculture, Conservation and Forestry
- ◆ USDA Natural Resources Conservation Service
- ◆ Maine Soil & Water Conservation Districts
- ◆ University of Maine Cooperative Extension
- ◆ USDA Farm Service Agency
- ◆ Maine Department of Agriculture, Conservation & Forestry's "Manure Utilization Guidelines"

Careful planning and proper manure management not only will protect our natural resources, the health of your animals and minimize nuisance complaints from neighbors, but also will save you time and money, while providing the enjoyable experience you intended to have with your horse or livestock.

**Maine Department of Agriculture,
Conservation & Forestry**

Division of Animal & Plant Health
28 State House Station
Augusta, Maine 04333-0028
207-287-7608
mark.hedrich@maine.gov
www.maine.gov/dacf



**Maine Department of
Agriculture,
Conservation and
Forestry
&**



**Maine Department of Environmental
Protection**

Horse & Livestock Small-Scale Manure Management



BMPs for your Farm

Why is Proper Manure Management Important?

Manure production and management are inevitable facets of horse or livestock ownership. Proper design and management of the manure handling and containment system will minimize impacts on neighbors and the environment, provide a healthier and less stressful life for the animals, and result in a much more rewarding and enjoyable experience for the horse and small-scale livestock owner. A complete manure management system involves the collection, storage (temporary or long-term), and disposal or utilization of manure, while keeping sound facility management and environmental stewardship in mind.

For example, a mature horse or other animal may produce 60-70 pounds of waste material daily (manure, urine, bedding), which must be collected, handled, stored and managed in a manner that will minimize odors, flies and other parasite development, small rodents, and runoff of pollutants to groundwater, wetlands, streams, and other water bodies. Proper manure management through the implementation of best management practices (BMPs) not only will benefit the environment, but also protect the health of the animals and their owner, and minimize nuisance complaints from neighbors and visits to your farm by regulatory officials.



1

Goals of Proper Manure Management Include:

- ◆ protecting the health and safety of the public, yourself and your horse or livestock;
- ◆ preventing contamination of soil, groundwater or surface water;
- ◆ minimizing disease dissemination within and beyond your farm site;
- ◆ controlling insects, rodents and other pests;
- ◆ reducing odors and dust;
- ◆ maintaining aesthetics for neighbors and the public;
- ◆ utilizing manure nutrients for enhancing soil health and fertility; and
- ◆ complying with state and local regulations related to manure handling.

The key for achieving these goals is to have a sound management plan developed **prior** to bringing animals on-site, and then **continuing** to implement BMPs!

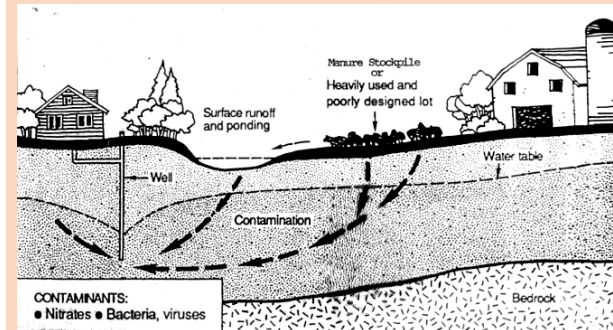


Do these photos reflect sound manure management?

2

Factors to Consider for Manure Management When Establishing a Horse or Livestock Venture

Many horse and small-scale livestock ventures are located on relatively small acreage, which limits the options for manure storage and field application. Many manure storage and handling options exist, but the horse and livestock owner must choose, perhaps with some expert technical assistance, the method (s) that best suits the operation. When managed properly, horse and livestock manure can be a valuable resource as a source of nutrients for pasture or forage production, and will improve soil health.



Most BMPs on small farms are practical, cost-effective and easy to implement, and include specific manure storage setbacks from wells, roads, buildings, waterbodies, other sensitive features, and property lines. For most operations, the development of a nutrient management plan could be beneficial, as this document outlines the manure application rates to be used on crop land or pastures, based on the nutrient content of the manure, the existing soil nutrient levels, and the types of crops that are growing.

3

How Can I Achieve Proper Manure Management and Utilization – What are the Options?

The first decision to be made is to determine the type of storage that will work for your operation and where to locate it. This will be determined by whether you will:

- ◆ stockpile the manure on a pad for a temporary or a long-term basis;
- ◆ spread the manure on your own farm's fields or pastures;
- ◆ utilize a dumpster for periodic disposal by a contractor;
- ◆ contract with a composteur who will haul it away on a routine basis; or
- ◆ compost it on-site yourself.

Weather conditions such as snow, or wet fields in the spring or fall, may impede access to the storage site and complicate the disposal or utilization process.

A **Stockpile** in a field must:

- ◆ provide for at least 180 days of storage during the winter months;
- ◆ be accessible to trucks or tractors for convenient removal;
- ◆ be located on high ground to minimize run-on of surface water or rain water;
- ◆ not result in run-off of pollutants to wells, streams, wetlands, or water bodies;
- ◆ be sloped 2-4° toward a vegetated treatment area for retaining any nutrients that might escape the stacking pad or storage area;

4